

FINAL REPORT ON
MISSOURI'S HIGHWAY SAFETY
ACTIVITIES FOR FY '86

OCTOBER 1, 1985 THROUGH SEPTEMBER 30, 1986

JOHN ASHCROFT
GOVERNOR

RICHARD C. RICE
DIRECTOR
DEPARTMENT OF PUBLIC SAFETY

NATHAN B. "NATE" WALKER
DIRECTOR
DIVISION OF HIGHWAY SAFETY

TABLE OF CONTENTS

	Page
Introduction	1
Problem Solution Plan 86-01	
Planning and Administration	4
Problem Solution Plan 86-02	
Police Traffic Services	5
Problem Solution Plan 86-03	
Alcohol Involvement	9
Problem Solution Plan 86-04	
Emergency Medical Services	16
Problem Solution Plan 86-05	
Occupant Restraint	19
Problem Solution Plan 86-06	
Traffic Records	26
Problem Solution Plan 86-07	
55 M.P.H. Enforcement	34
Problem Solution Plan 86-08	
Public Information and Education	38
Problem Solution Plan 86-10	
Engineering Services	40
Problem Solution Plan 86-11	
Engineering Training	42
Problem Solution Plan 86-12	
Intergovernmental Coordination	43
Problem Solution Plan 86-13	
Equipment Purchase	44
Problem Solution Plan 86-14	
Warning and Regulatory Signs	45

MISSOURI DIVISION OF HIGHWAY SAFETY

FISCAL YEAR 1986

ANNUAL REPORT

The following report covers those activities funded through the Missouri Division of Highway Safety from October 1, 1985 through September 30, 1986. The format of this report attempts to follow the guidelines set forth by the National Highway Traffic Safety Administration and the Federal Highway Administration Order 960-2/7510.3A.

The mission of the Missouri Division of Highway Safety (MDHS) is to carry out the National Safety Act of 1966. This act charges each Governor with the responsibility of administering a highway safety program designed to reduce deaths, injuries and property damage caused by traffic accidents.

Immediately after the approval of the 1966 Act, MDHS began searching for particular problem areas in Missouri. With the help of STARS (Statewide Traffic Accident Reporting System), we were able to identify and isolate many of them.

Some of these areas are drinking and driving, exceeding the speed limit and occupant restraint usage. Driving habits that can mean the difference between life and death, minor bruises and crippling injuries, or continued productivity and economic loss.

MDHS targets the priority issues by channeling federal funds from National Highway Traffic Safety Administration (NHTSA) to counties, cities, universities, state agencies and other governmental units. They in turn use the funds to enhance or initiate traffic safety programs in their area.

We continue to serve as a catalyst for such projects by providing support, guidance and assistance. Training seminars and conferences are offered in each of the target areas for law enforcement personnel; judiciary, health and education professionals; and special interest groups. MDHS promotes only the projects which serve to make Missouri roadways safer for all who use them.

As a result, significant progress has been made in improving the safety of Missouri roadways. In fact, since the enactment of the 1966 Highway Safety Act, Missouri's death rate (fatalities per 100 million vehicle miles traveled) has dropped from 6.2 to a much lower 2.4.

Each year the MDHS submits a Highway Safety Plan to the Regional Office of NHTSA. This document describes how federal monies will be used to promote highway safety in Missouri. After it is carefully reviewed by regional and national experts for compliance with national goals and the 1966 National Highway Safety Act, the plan is approved. And the state may begin funding highway safety projects.

Most projects are funded for only one year, with the maximum being three years. During that time MDHS monitors the progress of every project. Periodic reports from the project directors alert MDHS to any deviations from activities described in the approved application.

All the while, MDHS is kept abreast of the Federal Government's current concerns through a regional NHTSA office in Kansas City and a divisional Federal Highway Administration Office in Jefferson City.

In 1984 Missouri enacted legislation requiring all children under the age of four to be secured either in a federally approved child car seat in the front seat of a motor vehicle or in a car seat or safety belt in the rear seat. As a result, motor vehicle death and injury rates to children under four have decreased by 18.9%.

In 1985 Missouri became the fourth state requiring drivers and front seat passengers to use seat belts. MDHS estimates that a high level of compliance with this law could save at least 300 lives and prevent over 7,000 injuries in the state every year.

Comprehensive seat belt and child car safety programs are funded through MDHS. These projects target all facets of the community in an effort to significantly increase the use of occupant restraints.

MDHS provides child car seats and technical assistance to groups wishing to implement a car seat loan service within their community. In addition, coupons are available which offer a substantial savings to consumers purchasing a car seat.

A free kit called "Riding with Bucklebear" is given to preschoolers, daycare centers and other programs geared toward preschool-age children. Each kit contains a slide-tape presentation, lesson plans, instructor's guide, activity books and lapel stickers. It is designed to encourage young children to be safe passengers by wearing seat belts or riding in car seats.

Printed materials on child car seats, seat belts, air bags and other forms of passive restraints are available upon request.

The MDHS seat belt convincer simulates an automobile crash at 3 MPH and is made available for special functions. It is intended to convince people they should wear their safety belts at all times.

Missouri lowered the maximum speed limit to 55 MPH in 1974 in compliance with a federal energy program. The result has been a reduction both in the loss of human lives and in the severity of injury in traffic crashes.

Although speed limits have been increased on rural interstate system, all other roads maintain a maximum speed limit of 55 MPH.

MDHS provides additional funds for manpower upgrading, training and other needs associated with effective operation of a traffic enforcement unit.

Sites which rank high in the state's fatality and personal injury crashes are selected throughout Missouri. MDHS provides funding for enhanced traffic enforcement, equipment and overtime compensation in an effort to reduce accidents in these areas.

In 1984 Missouri passed Administrative Revocation legislation to get the drunk driver off the road as quickly as possible. Department of Revenue statistics show that this has been quite successful overall. In the Missouri

Highway Safety Study (September 1986), 86% of Missouri drivers indicated they were aware of the law. And enforcement statistics show that out of every 100 drunk driving arrests, 82 drivers are taken off the road through this process.

Sobriety Checkpoints are conducted with MDHS funding for equipment, overtime personnel and training. These checkpoints began in 1983 and are now located in over 20 cities and counties statewide.

MDHS educational materials promote awareness of alcohol and drug usage as well as their effect on driving.

Project Graduation trains local coordinators to promote and implement substance-free parties in their schools and communities. By the end of the second year of training, over 100 schools statewide had incorporated these parties into their prom and graduation activities.

In order to improve medical assistance at crash sites, MDHS funding is provided for additional training of emergency ambulance personnel in rural areas of the state.

Trained professionals are available to consult with local communities for solutions to engineering problems on their streets or highways. MDHS funds may be provided to upgrade roadways in the form of warning and regulatory signs.

Two types of evaluations are used in this report -- administrative and impact. Administrative evaluations are concerned with measuring the operational efficiency of task activities as they relate to the accomplishment of established goals and objectives. Impact evaluations determine the extent to which task operations and activities have contributed to the achievement of an objective related to crash involvement.

The total federal 402 funds obligated to the fiscal year 1986 Highway Safety Plan were \$2,963,400.00. Total contracted amounts equaled \$2,796,600.00 and as of March 11, 1987 \$2,645,200.00 had been claimed against obligated funds. The Problem Solution Plans were broken down by task and reported on in this manner.

PROBLEM SOLUTION PLAN 86-01

PLANNING AND ADMINISTRATION

Federal Obligation \$172,100.00

FY '86 Contract N/A

FY '86 Claimed 158,500.00

Highway Safety Planning and Administration (P & A) is divided into three areas; Administration, Program/Planning and Fiscal Management. P & A goals were to provide administrative capabilities to implement the programs and projects outlined in the Fiscal Year 1986 HSP.

Task 1. Planning and Administration

Three major areas in Highway Safety are covered in Administering the HSP with the Division Director being responsible for all coordination and all phases of Administration and Policies.

1. P & A -- Planning was conducted to develop the HSP. Past evaluation had significant bearing on counter measure activities that were included in the document.
2. Program Implementation -- This activity included the procedures necessary to contract with state and local agencies and monitoring activities conducted by the Missouri Division of Highway Safety staff.
3. Fiscal Activity and Management -- Each PSP was audited and disbursements were made as stipulated in the contracts. Fiscal affairs were coordinated by the finance section of Missouri Division of Highway Safety.

Funds in this PSP were also used to pay for the OMB Circular A-128 conducted by the Missouri State Auditor.

PROBLEM SOLUTION PLAN 86-02

POLICE TRAFFIC SERVICES

Federal Obligation \$349,400.00
FY '86 Contract 349,400.00
FY '86 Claimed 332,800.00

Enforcement programs were continued at sites demonstrating acceptable performance and effectiveness.

In order to maximize the impact of existing local resources, additional manpower and equipment was provided based upon analyses conducted by the Missouri Division of Highway Safety. Such support was based upon the allocation of manpower identified at high accident locations, time of day, day of week, and any other associated factors. Both the regular patrol and traffic sections of all participating departments were involved in the enforcement effort since the accident enforcement effort was a departmentwide activity rather than solely the responsibility of the traffic bureau.

Task 1. Project Continuations

Federal Obligation \$141,900.00
Fy '86 Contract 141,900.00
FY '86 Claimed 141,700.00

These projects provided for traffic officers' salaries in rural and urban areas and selective enforcement activities carried on by each project site. To be eligible for continuation, each individual site demonstrated a measure of performance in the project through increased selective enforcement, decreased traffic crashes or combination of variables to indicate success of the project.

Five sites were continued in Fiscal Year 1986. The following list are the 5 sites continued in FY '86.

Overland Police Department
Belton Police Department
Joplin Police Department

Cape Girardeau Police Department
Columbia Police Department

Illustration PT-1 graphically shows the areas of Missouri that experienced fatal and personal injury accidents in rural areas only excluding interstates.

Task 2. New Sites

Federal Obligation - 0 -
FY '86 Contract - 0 -
FY '86 Claimed - 0 -

No activity for FY '86

Task 3. Traffic Support Training

Federal Obligation	\$189,500.00
FY '86 Contract	189,500.00
FY '86 Claimed	174,200.00

Law enforcement agencies are constantly in need of upgrading officers' skills and expertise in specific areas of enforcement. This task provided the necessary training required to further educate law enforcement personnel. Priority was given to those agencies with Highway Safety funded projects. Other agencies were in attendance based upon the particular need of that agency; this method provided an impact to those agencies without a funded project by providing a level of expertise through training programs. All courses were conducted through an approved Training Academy. Each training course is listed below and the number of personnel in attendance. A detailed course outline is available upon request through the Missouri Division of Highway Safety.

<u>COURSE</u>	<u>STUDENT ATTENDING</u>
Accident Reconstruction	43
Blood Alcohol Type II Certification	97
DWI/Drug Enforcement Instructor Course	74
Traffic Accident Investigation	47
Radar Operator/Instructor Certification	54
Police Driver Training	184
Police Management Course	29
Vehicle Homicide Course	63
Basic Police Motorcycle Course	20
Police Motorcycle Refresher Course	11
Advanced Police Motorcycle Course	5
Hazardous Material Program	337
Satellite Police Driving Program	54
Field Sobriety Testing	187
Sobriety Checkpoint Training	52

Task 4. State Match

Salaries of the Highway Patrol's officers were used as the state match. More than 90% of the Patrol's activities are traffic-related. The State Patrol budget greatly exceeds the amount needed as an in-kind or "soft" match as required in the Highway Safety Act.

Task 5. Program Coordinators

Federal Obligation	\$13,000.00
FY '86 Contract	13,000.00
FY '86 Claimed	12,200.00

The program coordinators were responsible for developing, implementing, and monitoring the tasks in this Problem Solution Plan.

Task 6. P.T.S. Advisory Council

Federal Obligation	\$3,000.00
FY '86 Contract	3,000.00
FY '86 Claimed	2,700.00

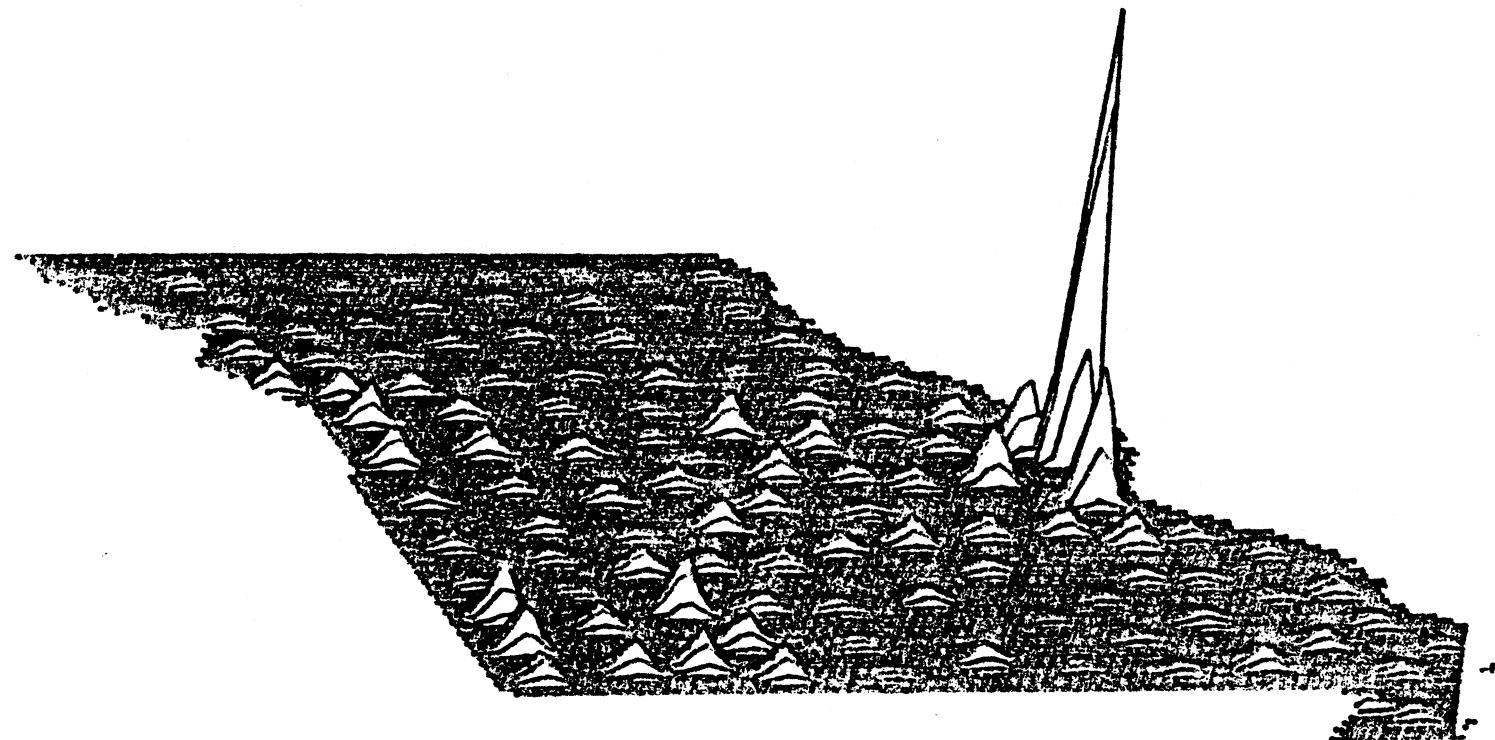
Funds were used to support advisory committee members and the annual PTS Conference major cost items were meals, lodging, and meeting facilities.

Task 7. PTS Minutes and Notices

Federal Obligation	\$2,000.00
FY '86 Contract	2,000.00
FY '86 Claimed	2,000.00

Funds were used for postage, duplicating charges and award placques for the Annual P.T.S. Conference.

MISSOURI FATAL & PERSONAL INJURY
ACCIDENTS 1984 - 1986
RURAL AREAS ONLY / EXCLUDING INTERSTATES



PROBLEM SOLUTION PLAN 86-03

ALCOHOL INVOLVEMENT

Federal Obligation	\$539,500.00
FY '86 Contract	528,400.00
FY '86 Claimed	500,000.00

The main area of emphasis in these programs was to increase awareness of the public in general, and special interest groups in particular, of the enormity of the drinking driver problem in Missouri. The increased awareness, therefore, lent itself to the development of specific alcohol countermeasure tasks and projects. These activities were designed to influence public attitude with regard to the risks of driving after drinking; to develop programs at the local level; to encourage individuals to take personal actions to deter others from driving after drinking; to educate and train law enforcement, judiciary, and treatment/rehabilitation professionals regarding legislation, improved sobriety testing, rehabilitative services, and other relevant alcohol issues.

Task 1. Comprehensive Alcohol Programs

Federal Obligation	\$160,500.00
FY '86 Contract	157,800.00
FY '86 Claimed	146,200.00

The purpose of this task was to assess the needs and shortcomings of a community in the area of alcohol countermeasures. Based upon this assessment, a plan of action was developed to rectify the shortcomings. The plan utilized a comprehensive community approach. Annually, the plan will be reassessed to allow for consideration of alternative or innovative solutions for problem areas.

Task 1.1 St. Louis County

Projects were written in this task for:

Coordinator (St. Louis County Police Department)
Public Information and Education (St. Louis County Police Department)
DWI Overtime enforcement (St. Louis County Police Department)
Intake Officer (St. Louis County Police Department)
Probation/Parole Officer (Department of Justice Services)

This program was cancelled because their ineligibility to continue to receive Federal 402 funding.

Task 1.2 Springfield/Greene County

A. Program Coordination

In order to meet the federal requirements that a comprehensive program is fully coordinated, the position of Program Coordinator continued to be funded. The City of Springfield matched almost \$12,000.00 of the position. The members of CASE are volunteers. For this reason, it is imperative that a full-time individual is available to handle the public relations,

scheduling and paperwork for the organization and to serve as the liaison between CASE and the Missouri Division of Highway Safety.

B. Development/Education and Training

This project was developed to allow travel expenses for CASE members to attend training and developmental sessions. The main portion of the project funds are expended during the annual planning retreat where the CASE members gather for an intensive work weekend to develop their program plan for the coming year.

C. Public Information and Education

The Missouri Division of Highway Safety funds this project at 100% each year. This project allows CASE to develop, print and purchase public information materials for awareness activities in the community. During this fiscal year, CASE was able to assist in the following:

50,000 flyers "Tips for Holiday Recipes" (no distribution charge);

2 "Natural Helpers" guides purchased to be used by CASE or on loan as needed;

Victim literature, youth materials, general information materials and a film were purchased from the MADD organization;

20 scholarships were provided for local high school students to attend the Regional Teen Institute on Substance Abuse & Prevention;

10,000 "Friends Don't Let Friends Drive Drunk" Drinking and Driving bumper stickers were printed & distributed.

In addition, CASE received almost unlimited support and coverage from the local radio, television and print medias. They actively participated in National Drunk and Drugged Driving Awareness Week, Project Graduation activities on both a state and local level, Chemical People Projects, Ozark Empire Fair and Campus Alcohol Awareness Weeks.

D. Enforcement

The Springfield Police Department made 1,471 DWI arrests which was approximately 1.8% of their licensed driver population. Their average BAC per arrest is .15, and officer down-time averages 1 hour, 15 minutes per arrest.

The Green County Sheriff's Department made 111 DWI arrests in the same period, the average BAC per arrest was approximately .17, and officer down-time averaged 1 1/2 hours.

E. Municipal Probation and Parole

This project funded a full-time Probation/Parole Officer and Clerical Assistance in the municipal court to perform presentence assessments on alcohol-related traffic offenders, maintained a tracking list of these

offenders, monitored their progress and made referrals to the court. This project was very successful as demonstrated by the following statistics.

- 1) Close to 100% of referral recommendations were consistently accepted by the court;
- 2) 100% of probation violations (non-compliance) were resolved;
- 3) Over 90% of guilty cases were sentenced by utilizing pre-sentence investigation reports;
- 4) All existing rehabilitation services were utilized by the court;
- 5) Treatment costs were paid by the violator (unless the individual was indigent).

F. Nighttime Municipal Court

A nighttime municipal court was begun in November 1985 to reduce the court docket from arraignment to time of trial, thereby allowing for more effective prosecution of alcohol-related traffic offenses and speedier dispositions. Conviction rates on original charges increased from 63% to 76%; the period of time from the date of arrest to the date of conviction dropped from 55 to 48 days; average number of continuances per case dropped from .36 to .11

There were still a high number of D.W.I. cases being handled by the daytime division of the court. In the vast majority of those, defendants were being arraigned, pleading guilty and being sentenced. Therefore, it appeared that the nighttime division handled all of the contested cases in which no guilty pleas were entered and in which trials were requested. Since the statistics reflect prosecution and conviction statistics for the cases in which defendants felt they had a defense and retained attorneys, the conviction rate and other statistics indicate that the program is remarkably sucessful.

G. Prosecution--County

There were two separate contracts with the Greene County Prosecutor's Office -- one for a special DWI prosecutor and one for clerical assistance. These were very successful projects. During 1986, the following objectives were met:

- 1) 94% first offender DWI's were convicted;
- 2) 92% multiple offender DWI's were convicted;
- 3) Out of 1,077 cases, only 1 was reduced to a non-alcohol related charge;
- 4) 94% of misdemeanors were convicted on original charge;
- 5) Average BAC per conviction was 166;
- 6) 100% of felony DWI's were convicted on original charge.

Task 2. Project Graduation Conference

Federal Obligation	\$ 27,500.00
FY '86 Contract	27,500.00
FY '86 Claimed	27,200.00

Project Description:

All high schools in the state were contacted and invited to attend a workshop on how to organize an alcohol/substance free graduation party. The National "Project Graduation Concept" was introduced to motivate school representatives to duplicate this activity at their own location.

Accomplishments:

Seventy (70) schools sent representatives to the workshop. School participants were comprised of one advisor plus one senior and one junior.

Task 3. Sobriety Checkpoints

Federal Obligation	\$168,300.00
FY '86 Contract	168,500.00
FY '86 Claimed	161,200.00

This project was designed to decrease accidents, injuries, and fatalities. The specific objectives of this task were:

1. To raise the citizen's perception of possible risk and detection of D.W.I., and to increase the number of drivers arrested for driving while intoxicated during the hours of 10:00 p.m. to 3:00 a.m. on specified days and reduce injury/fatal accidents at participating jurisdictions.
2. Increase the number of law enforcement officers available having the specific assignment of apprehending intoxicated drivers during those peak periods.
3. Overtime Enforcement. Departments participating in the Sobriety Checkpoints:

Boone County Sheriff's Department	Bel-Nor Police Department
Sugar Creek Police Department	Bel-Ridge Police Department
Sikeston Department of Public Safety	Farmington Police Department
Rolla Police Department	Marshall Police Department
Cape Girardeau Police Department	Crystal City Police Department
St. Joseph Police Department	Arnold Police Department
St. Peters Police Department	Washington Police Department
Pevely Police Department	Fulton Police Department
Kansas City Police Department	Cool Valley Police Department
Platte County Sheriff's Department	West Plains Police Department

Figure AL-1 graphically shows the high accident locations in the state by time of day.

Task 4. Governor's Council on D.W.I.

Federal Obligation	\$ 5,000.00
FY '86 Contract	5,000.00
FY '86 Claimed	2,000.00

Governor Ashcroft formed the Governor's Advisory Council on DWI in December 1985 to evaluate and recommend improvements in DWI laws, initiate a public awareness campaign and to coordinate enforcement throughout the state. Thirty

individuals comprised the council which included members of the General Assembly, law enforcement, community alcohol programs, the beverage alcohol industry, victims, students and state agency personnel.

In an effort to analyze the drunk driving problem most effectively, the Council held a series of four public forums statewide to hear the testimony of individuals with a personal interest in the problem. Forums were held in Springfield, Lake Ozark, Independence and Creve Coeur.

A final report is in the process of being developed.

Task 5. Public Information and Education

Activity for this task took place in PSP 86-08

Task 6. Breath Test Certification

Federal Obligation	\$35,000.00
FY '86 Contract	35,000.00
FY '86 Claimed	32,700.00

All breath-testing equipment and log books were checked at least once a quarter during the fiscal year. In addition, Health Lab personnel provided expert testimony in court cases. Assistance was also provided in training new operators and in redistributing breath-testing equipment, repair and calibration of B.A. equipment.

One federally funded employee was provided in the state budget at the beginning of the state fiscal year (July 1, 1985).

Task 7. Corporate D.W.I. Programs

No activity in this task

Task 8. Alcohol Awareness Workshops

Federal Obligation	\$80,000.00
FY '86 Contract	71,400.00
FY '86 Claimed	71,500.00

The Division hosted a statewide DWI conference designed to train law enforcement personnel in the following areas of the DWI issue:

- A) Administrative Revocation/Legislation
- B) Adjudication
- C) Improved Field Sobriety Testing
- D) Prosecution
- E) Model Comprehensive Community Programs
- F) DWI Accident Reconstruction/Investigation
- G) Breath Testing Equipment
- H) Local Solutions & Incentives
- I) Officer Survival at Roadside

National and local speakers addressed the conferees. A total of 198 law enforcement officers and other individuals involved in the DWI issue were

trained. In addition, a follow-up survey was administered to the attendees to determine the value of this conference and the need for future similar conferences.

Task 9. School Curriculum/Guidelines

No activity in this task

Task 10. Postage, Shipping and Photography

Federal Obligation	\$500.00
FY '86 Contract	500.00
FY '86 Claimed	400.00

Funds were used to cover photography costs at the statewide D.W.I. Conference.

Task 11. Program Coordination

Federal Obligation	\$58,000.00
FY '86 Contract	58,000.00
FY '86 Claimed	54,000.00

The program coordinators were responsible for developing, implementing and monitoring the tasks in this P.S.P.

Task 12. Special Workshops

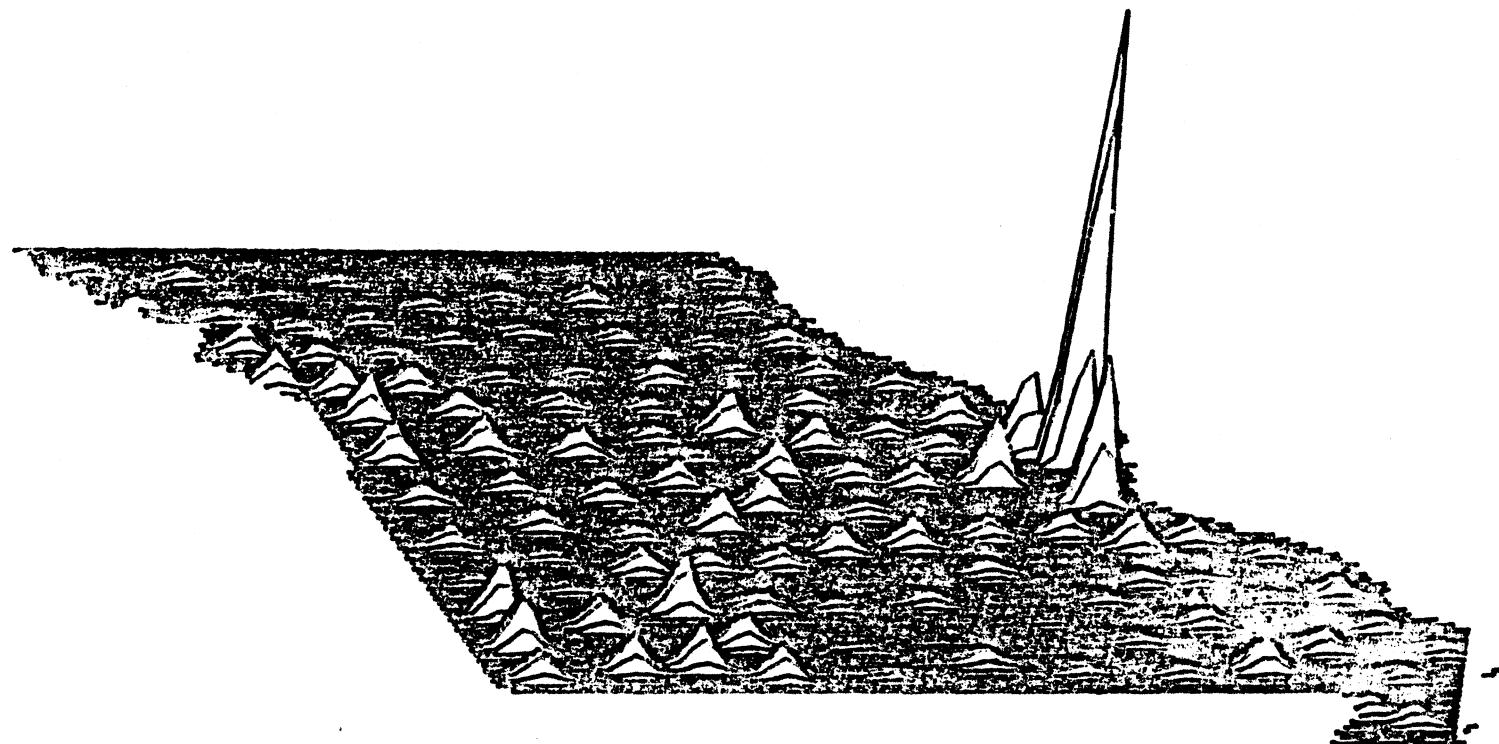
No activity for FY '86

Task 13. DWI Controlled Driving Course

Federal Obligation	\$ 4,700.00
FY '86 Contract	4,700.00
FY '86 Claimed	4,700.00

The Division of Highway Safety offered a DWI Controlled Driving Course for local news media as an awareness effort. The program was developed and hosted by the Central Missouri State University Safety Center. Seven (7) drinkers from a variety of news media agencies and various other agencies participated in this program. After drinking to a legally intoxicated state, these individuals drove a pre-programmed driving course and were scored to verify their impairment. Pre and post testing components were utilized as was a follow-up survey of the drinkers. A videotape was prepared of this project for use as a training aid in awareness activities. The individuals participating in this program felt it was quite an eye-opening and learning experience for them.

MISSOURI FATAL & PERSONAL INJURY
TIME 2200 - 0259 ACCIDENTS 1984 - 1986
RURAL AREAS ONLY / EXCLUDING INTERSTATES



PROBLEM SOLUTION PLAN 86-04

EMERGENCY MEDICAL SERVICES

Federal Obligation \$275,000.00
FY '86 Contract 275,000.00
FY '86 Claimed 124,800.00

The goals of this Problem Solution Plan were to decrease the severity rate and number of deaths during Fiscal Year 1986.

Task 1. EMT Training Coordination

Federal Obligation \$57,000.00
FY '86 Contract 57,000.00
FY '86 Claimed 57,000.00

Paramedic instructor/coordinators were responsible for administering state certification examinations to both EMT-A and EMT-P students. The coordinators were responsible for insuring that National Highway Traffic Safety Administration guidelines were followed for all programs administered by the Bureau of Emergency Medical Services (EMS). They also assisted in setting up and conducting the EMT-A and EMT-P courses throughout the state.

During this reporting period, the coordinators certified the following types of classes, and tested/certified the following categories of students:

TYPE OF COURSE	ACTIVITY				
	Students Trained and Passed		Courses Approved		
	Gen.	402 Corr.	Gen.	402	Coor.
Basic EMT	1,492	186	142	18	
Refresher	1,050	131	14	2	
Paramedic	592	74	37	5	
Paramedic Refresher	265	33	26	3	
CEU	800	100	110	14	
First Responder	586	71	45	6	

Task 2. Training Programs

Federal Obligation \$218,000.00
FY '86 Contract 218,000.00
FY '86 Claimed 67,800.00

The following training programs were included in this task.

Task 2.1 Emergency Medical Technician - Ambulance Training (81-Hour Course)

Two thousand students were scheduled to receive training in the 81-hour EMT course, with 1,000 of these students receiving 402 funding assistance.

1. Total Number of all Students ----- 1,492
2. Total Number of 402 Students ----- 433
3. Pass/Fail Ratio - all Students ----- 75.3%
4. Pass/Fail Ratio - 402 Students ----- 86.1%

Task 2.2 EMT-A Refresher Training (20-Hour Course)

It was projected that 500 EMT's would attend this course, with local funds being used to pay up to 66% of the total amount required.

1. Total Number of all Students ----- 1,050
2. Total Number of 402 Students ----- 131
3. Pass/Fail Ratio - all Students ----- 87.1%
4. Pass/Fail Ratio - 402 Students ----- 93.1%

Task 2.3 Emergency Medical Technician - Paramedic Training (480-Hour Course)

Approximately 400 students were to attend this course in FY '86. The course provided advanced life support training to administer on-site critical care capability and initiate drug treatment in trauma.

1. Total Number of all Students ----- 592
2. Total Number of 402 Students ----- 41
3. Pass/Fail Ratio - all Students ----- 80.0%
4. Pass/Fail Ratio - 402 Students ----- 90.2%

Task 2.4 EMT-P Refresher Training (60-Hour Course)

It was anticipated that 300 EMT-P's would attend this course in FY '86.

1. Total Number of all Students ----- 265
2. Total Number of 402 Students ----- 75
3. Pass/Fail Ratio - all Students ----- 93.1%
4. Pass/Fail Ratio - 402 Students ----- 97.3%

Task 2.5 First Responder Training

It was projected that 600 first responders would attend this course during FY '86.

1. Total Number of all Students ----- 586
2. Total Number of 402 Students ----- 284
3. Pass/Fail Ratio - all Students ----- N/A
4. Pass/Fail Ratio - 402 Students ----- 100%

Status of number of students shown on this report reflects training completed December 1986 and actual final numbers will at least double. This is caused by course duration, examination time, and many classes begin late in the fiscal year.

PROBLEM SOLUTION PLAN 86-05

OCCUPANT RESTRAINT

Federal Obligation	\$563,000.00
FY '86 Contract	580,300.00
FY '86 Claimed	533,600.00

The goals of the Occupant Restraint Program were to increase usage of safety belts and protection of children through child safety restraints. Based upon national studies, this increase of occupant restraint usage will decrease crash fatalities and injuries.

Task 1. Child Restraint Information

Federal Obligation	\$68,000.00
FY '86 Contract	68,000.00
FY '86 Claimed	59,300.00

Task 1.1 Informational Films

Fifty (50) "Seat Sense" films were purchased and provided to health care educators for use in training programs. One hundred (100) Cosco slide/tape "Travel with Baby" shows were purchased to be used by loaner programs and other providers of child car safety information.

Task 1.2 Printed Promotional Materials

Funds were used to make available the following:

- Bucklebear stickers (402,000 copies)
- Shopping Guide to Purchasing a Car Seat (50,000 copies)
- Child Car Safety Fact Book (100,000 copies)
- Child Car Safety Poster "400 Pound Baby" (5,000 copies)

In addition, four mailings were sent to loaner programs providing informational material on child car safety and special events to promote car seat usage in Missouri.

Task 1.3 Refer to PSP 86-08

Task 1.4 Upgrade Loan-A-Seat Program

Loaner programs were started in eight more counties this fiscal year making every county participating in the Missouri Loan-A-Seat Program.

In total, 23 new loaner programs were implemented and 33 existing programs received seats under the Toddler Seat Matching Program. The Missouri Division of Highway Safety records show that the 320 loaner programs in Missouri are making available about 10,000 car seats for loan.

The Cosco Discount Card was revised and reprinted. This card allows the consumer to save about half price on a car seat by ordering factory direct. Missouri Division of Highway Safety records show that 645 car seats were ordered

via this card in FY '86.

Task 2. Corporate Safety Belt Workshop

Federal Obligation	\$5,100.00
FY '86 Contract	5,100.00
FY '86 Claimed	5,100.00

The division sponsored a corporate safety belt workshop in conjunction with the Missouri Safety Conference. Over 300 safety officials were in attendance. A special workshop was also conducted for community leaders on building support at the local level.

Task 3. Preschool Educational Material

Federal Obligation	\$49,700.00
FY '86 Contract	58,500.00
FY '86 Claimed	57,400.00

This task provided for the purchase of safety belt educational materials that were distributed to preschools and grade schools throughout Missouri. To date over 80,000 children and their parents have been exposed to the importance of safety belt and safety restraint usage.

Task 4. Child Restraint Coordination

Federal Obligation	\$42,000.00
FY '86 Contract	50,000.00
FY '86 Claimed	47,500.00

The program coordinator is responsible for developing, implementing, and monitoring the activities in the Problem Solution Plan. The major cost items were salaries and fringe benefits.

Task 5. Educational Presentations

Federal Obligation	\$24,900.00
FY '86 Contract	24,900.00
FY '86 Claimed	24,900.00

This program was designed to reduce the incidence of head and spinal cord injuries by increasing the probability that individuals will adapt preventive behavior. The major emphasis of the program evolved around safety belt usage. The program was presented by the University of Missouri Medical Center and for FY '86 they presented assemblies to 65 schools reaching 23,175 students.

Task 6. Community Programs

Federal Obligation	\$199,100.00
FY '86 Contract	199,100.00
FY '86 Claimed	176,400.00

This task provided funds to support communities in developing comprehensive programs to promote occupant restraint usage.

The Division of Highway Safety Funded Ten (10) programs throughout the state. The following is a brief description of those programs, their accomplishments and activities.

I. Cape Girardeau Safety Belt Program

- A. Increased seat belt usage by 21.20% from 6.80% to 28%
- B. Over 2,000 educated on child car safety
- C. Buckle-bear visited 2,270 preschool children
- D. 370 High School and 200 College Students attended safety belt presentations
- E. Proctor & Gamble Products and Tri-Can Industry developed on-going corporate seat belt programs
- F. Ronald McDonald safety belt presentations
- G. Fifteen businesses attended a safety belt promotional workshop
- H. Nine belt mobile incentive programs were conducted

II. Boone County Safety Belt Program

- A. Increased belt usage from 12% to 36%
- B. Seat belt convincer visited schools, corporations, state offices and health related events
- C. Area automobile dealers donated a car to be used as a "belt mobile"

III. Randolph County Safety Belt Program

- A. Increased usage from 4.5% to 21%
- B. Presented Bucklebear programs
- C. Displayed the convincer at awarness booths & fairs
- D. Acquired a "belt mobile"
- E. Handed out Public Information and Education materials whenever possible

IV. St. Francis Hospital Safety Belt Program (Marceline)

- A. Acquired a six (6) county safety belt usage rate of 52%
- B. Achieved this high level of usage through educational programs, incentive campaigns, awarness projects and child car safety promotions

V. Kirksville Community Safety Belt Program

- A. Increased safety belt usage from 5% to 29%
- B. Activities included:
 - 1. Bucklebear programs
 - 2. Elementary fun nights and carnivals
 - 3. Use of beltmobile
 - 4. Used Vince & Larry crash dummies

VI. St. Joseph Safety Council Safety Belt Program

- A. Safety belt usage for drivers was 23% and children under four was 46%
- B. Other activities and accomplishments:

1. Recruitment of a community task force of more than 100 persons
2. Operation of the Kids in Safety Seats rental program at Heartland Hospital West
3. Development of a passenger safety resource center of audiovisual and printed materials
4. Public information campaign to promote buckling up and the use of child safety seats
5. Activities in the elementary, middle and high schools
6. The "Seat Belts Pay Off" community incentive campaigns
7. Corporate Safety Belt workshop
8. Bucklebear training and programs for local preschools, daycare centers and parent's day out programs
9. Establishment of a Saved by the Belt Club and an essay contest to promote the club
10. Passenger safety education and activities for children in the Safety Town summer program and their parents
11. Exhibits in the community on ten different occasions
12. Development of a speaker's bureau which provides programs for groups of all ages
13. Establishment of the Snap to it for Safety Club for Preschoolers with an original mascot, Snappy Turtle
14. Promotion of safety belt policies for local agencies and businesses

VII. St. Joseph Health Care - Safety Belt Program (St. Charles)

A. Activities to increase safety belt usage were:

1. Bucklebear presentations
2. Classroom programs
3. Poster and Calendar contests
4. Loan-a-Seat programs

VIII. Maryville Safety Belt Project

A. Safety belt usage went from 7.75% to 23%

B. Activities included:

1. Bucklebear presentations for young children
2. Films and use of the convincer for young adults
3. Incentive and Awareness

IX. Safety Council of Greater St. Louis

A. Activities included:

1. Safety belt workshops
2. Displayed the convincer
3. Bucklebear presentations
4. Mandatory safety belt policy for St. Louis Police Department
5. Booth at V.P. Fair

X. Safety Council of the Ozarks (Springfield)

- A. Safety belt usage was increased from 20% to 30%
- B. Activities included:

- 1. Bucklebear presentations
- 2. Health and Safety Fairs
- 3. Used a "Buckle-up-Pickup"

Task 7. Usage Survey

Federal Obligation	\$8,200.00
FY '86 Contract	8,200.00
FY '86 Claimed	8,200.00

A usage survey was conducted under guidelines developed between the Missouri Safety Center and NHTSA's Washington office to monitor actual belt usage in compliance with the state law. The survey was conducted during August/September 1986 with the following results:

- Safety belt usage for drivers was observed to be 34.4%
- Usage by front seat passengers was observed at 31.1%
- Usage of child restraints was observed at 29.7%
- Highest usage rates (45.9%) was observed in the Kansas City Metropolitan area

Task 8. Occupant Restraint Information

Funds in this task were used to print the following:

Brochure on Missouri's Occupant Restraint Laws (300,000 copies)
Seat Belt Lapel Stickers (302,800 copies)
Seat Belt/Car Seat Fact Sheet (150,000 copies)
Highway Safety Response Cards (4,000 copies)
Seat Belt Violation Warning Tickets (4,000 pads)
Seat Belt Posters (5,000 copies)
Hate to Wear Seat Belt Brochure (100,000 copies)
Bumper Stickers (27,000 quantity)
History Lesson on Belts Brochure (100,000 copies)

Items above were printed to meet public demand. They are provided in quantity for major promotional campaigns to encourage seat belt use within the target audience.

Task 9. Occupant Restraint Task Force

The Missouri State Employees task force was formed in 1985 to promote safety belt usage to state employees. Activities for FY '86 included holiday handouts to employees who wore their seat belts and a summer incentive program. Films were shown to employees and awards were given to those individuals who were "Saved by the Belt".

The success of this is apparent through a 19% increase in safety belt usage from 13% to 32%.

Task 10. Occupant Restraint Coordination

Federal Obligation \$74,000.00
FY '86 Contract 74,000.00
FY '86 Claimed 70,800.00

The program coordinators were responsible for developing, implementing and monitoring the tasks in this PSP.

Task 11. Shipping Postage and Photography

Federal Obligation \$11,000.00
FY '86 Contract 11,500.00
FY '86 Claimed 10,900.00

Funds in this task were used for mass mailings and shipping costs. Funding also covered 35mm film purchase and all development and processing of film and prints.

Task 12. Seat Belt Convincer

Federal Obligation \$12,000.00
FY '86 Contract 12,000.00
FY '86 Claimed 12,300.00

Funds in this task provide necessary support services to display the seat belt convincer and related displays.

The convincer was operational 215 days, not counting travel time, and was utilized by 168 sponsoring groups, over 25,000 individuals rode the convincer. education and awareness campaign was undertaken in support of this legislation. Seat belt usage has risen from 9.9 percent to 19.2 percent and should continue to rise as the penalty provision is approached.

Task 13. Law Enforcement Workshops

Federal Obligation \$21,800.00
FY '86 Contract 21,800.00
FY '86 Claimed 21,800.00

A. Train the Trainers Workshop - A conference was conducted for law enforcement trainers (36 in attendance) representing all of the state's regional training academies. NHTSA trainers were utilized to conduct the training sessions on seat belt training guide and departmental liability for failure of police officers not utilizing safety belts.

B. Police Administrators Training Conference - One Hundred and eighty nine (189) police administrators attended a workshop dealing with the following topics:

1. Mandatory Usage Policies
2. Missouri Law
3. Municipal Ordinances and Model Legislation
4. Legal consequences of police failure to utilize safety belts

5. Enforcement tactics

Task 14. Special Workshops

Federal Obligation	\$1,100.00
FY '86 Contract	1,100.00
FY '86 Claimed	1,100.00

Funds in this task were utilized to recognize outstanding Highway Safety volunteers through luncheon ceremonies. Over 100 volunteers were recognized at 6 locations throughout Missouri. Individuals were presented with certificates and were recognized by local media.

In addition, funds were spent to send key leaders in Missouri to a National occupant restraint workshop in Council Bluffs, Iowa. This session provided individuals at the local level with necessary information to develop community safety belt programs in their respective communities.

Task 15. Evaluation of Child Restraints

No activity was reported in this task for FY '86

Task 16. Workshops on Seat Belt Law

Federal Obligation	\$1,900.00
FY '86 Contract	1,900.00
FY '86 Claimed	1,900.00

- A. Municipal Conference - A special conference was conducted in conjunction with the Missouri Municipal League which focused on mandatory use policies, model municipal ordinances, employee education, and the state safety belt law. Thirty municipal offices were in attendance.
- B. Missouri Municipal and Associate Circuit Judges Conferences - A training program for over two hundred (200) judges was conducted on the benefits of safety belt usage and the state's new law.

PROBLEM SOLUTION PLAN 86-06

TRAFFIC RECORDS

Federal Obligation	\$472,000.00
FY '86 Contract	472,000.00
FY '86 Claimed	443,100.00

The Statewide Traffic Accident Reporting System (STARS) provided vital traffic accident data and statistics to state and local users. For this reason, resource systems were used to maintain input processing and operational output subsystems.

The Missouri State Highway Patrol provided the Missouri Division of Highway Safety with a systems team as well as use of its computer facility. These resources were used to support the statewide traffic data analysis work effort and development of new traffic-related information systems. At the direction of the Division of Highway Safety, the systems team was utilized to provide technical assistance to the Missouri Traffic Records Committee.

Task 1. STARS Information Maintenance

Federal Obligation	\$ 65,000.00
FY '86 Contract	65,000.00
FY '86 Claimed	61,900.00

1. Total number of traffic accident reports processed into the STARS database = 170,921.
2. Total number of traffic accident summaries generated = 2,340.
3. Police agencies over 1,000 population who did not contribute to the STARS program = 18 (see attached list)
4. Rejection ratio of reports = .0000.
5. The implementation date for the use of the revised Missouri Uniform Accident Report Form and the Accident Preparation Manual was January 1, 1986.

During this reporting period, the STARS Management Staff visited with 60 different reporting agencies. Our Safety Officers also visited with 121 of the different reporting agencies. During these visits topics of discussion included such problem areas as non-reporting, late reporting and errors in accident classification. Non-reporting and late reporting continue to be major problem areas.

At the present time we anticipate some cosmetic changes in 1987, which will be reported in the next fiscal year report.

Task 2. Highway Safety Data Analysis

Federal Obligation	\$ 16,000.00
FY '86 Contract	16,000.00
FY '86 Claimed	11,700.00

The following is a list of significant achievements accomplished by the Information Systems staff associated with the 1986 grant entitled "Division of Highway Safety Data Processing". The activity described below occurred from October 1, 1985 through September 30, 1986.

1. Highway Safety Plan Development - Assistance was provided to the Missouri Division of Highway Safety (MDHS) in development and implementation of the Missouri Highway Safety Plan (HSP).

2. Highway Safety Information Systems Contract Development and Monitoring - Assistance was provided to MDHS in the following manner:

To Date, no work has been performed under this work task during the period.

3. State and Local Information Service Support - Assistance was provided to MDHS in supplying information and analytical services to other Federal, State, and local traffic authorities.

4. Grant Management Systems Support - Assistance was provided in maintaining this application. Efforts in this area included the following:

- A. The Research Triangle Institute (RTI) discontinued support for the application software associated with this information system. RTI was the consultant firm that originally developed the software.

- B. A special report was produced that listed all NHTSA 402 grant contracts that were let to Missouri cities and counties since the inception of the grant funding program through FY '82. Another report was produced that identified those NHTSA 402 grant contracts that were let to other agencies over the same time period. These reports were provided to the MDHS and, in turn, NHTSA Region VII.

5. Statewide Traffic Enforcement and Resource Reporting Systems - All police agencies having active PTS grants under the auspices of the MDHS report to these two information systems. Standardized reports are produced quarterly and forwarded to the MDHS grant monitoring staff as well as to the submitting agencies.

6. City/County Engineering Location Application Support - Efforts in this area included:

- A. Quarterly TRACE production reports were produced for ten (10) city/county engineering agencies during this time period.

- B. Annual STARS II TRACE reports were produced and provided to sixty three (63) city/county traffic engineering agencies reflecting their 1985 traffic accident activity.

7. City/County Engineering Signalization Program - Assistance has been provided to MDHS to implement the FHWA grant entitled "TMS Assistance Program Project Traffic Signal Optimization." Under this grant, signal optimization software has been installed and is being maintained at the MSHP computer facility. This software is designed to process data associated with a community's signalized intersections. An application access method was developed to allow the MDHS Traffic Safety Engineering

Specialist to have direct terminal access to this application and associated databases using the MULES terminal at the Department of Public Safety. With this capability, the traffic safety engineer can make corrections to the intersection input data and initiate runs in a timely manner without the involvement of MSHP IS-D staff. From this application, the user receives the optimum signal patterns for each of their intersections.

8. Traffic Statistical Systems Support - The following work effort has been accomplished under this task:

To date, no work was completed under this task during this time period.

9. STARS Maintenance - Support for the STARS system included the following activities:

A contract was let to the University of Michigan Transportation Research Institute (UMTRI, formerly known as HSRI). Services provided included support for the HSRI/STARS terminal interface. With this interface, STARS files can be accessed and statistical output obtained by project staff using a time-sharing terminal via the telephone network.

10. STARS System Upgrade - A Missouri Traffic Records Committee has been appointed to identify problems associated with the STARS system and make recommendations to the MSHP for corrective action. The MSHP IS-D systems staff supported under this grant is providing technical staff services to the committee and the MSHP.

11. Missouri Drinking While Intoxicated (DWI) Case Tracking Study -
The following work has been completed on this task:

- A. Staff from the Missouri SAC conducted 47 field visits to law enforcement agencies throughout the State of Missouri during this time period. A total of 870 DWI arrest cases were selected from these agencies to be included in the study and arrest surveys were completed on all the cases.
- B. Thirty (30) field visits were made by SAC staff to prosecutors and courts and the prosecutor, court, probation, parole, and jail survey forms were completed for 630 cases.
- C. Department of Revenue (DOR) administrative action survey forms were completed for 630 cases by SAC staff working with the DOR staff.
- D. Data entry screens as well as database file, record, and data element structures were designed and programmed to allow the encoding of data from completed prosecutor, court, probation, parole, jail, and DOR administrative actions survey forms.

Task 3. Missouri Traffic Records Systems Upgrade

Federal Obligation	\$40,000.00
FY '86 Contract	40,000.00
FY '86 Claimed	39,400.00

This evaluation is based on "milestones" developed by the Information Systems Division of the Missouri State Highway Patrol for planned completion of the Statewide Traffic Accident Records System (STARS) Upgrade. Use of the new form began January 1, 1986. The tasks below are described with a status report for each itemized activity.

1. The STARS Standing Committee meets at least once a year or at the discretion of the Superintendent of the Highway Patrol.
2. Coordinate activities of standing committee - On-going.
3. Review and update manual input processing and file maintenance procedures. Completed January 1, 1986.
4. Implement Phase V of system upgrade (develop STARS/MULES interface) - On-going.
5. Implement Phase VII of system upgrade (STARS uniforms database conversion) - On-going.
6. Implement Phase VIII of system upgrade (develop geo-code sub-system) - On-going.
7. Conduct training for all other Missouri police agencies requesting direct training support from the Missouri State Highway Patrol - On-going.
8. Conduct training for STARS encoding staff - On-going.
9. Coordinate all field training work with the standing committee - On-going.
10. Integrate new reporting requirements into all accident investigation and related training courses provided to Missouri law enforcement officers - On-going.

October 1, 1985 through September 30, 1986

Monthly 14A-B & Locator	1408
Annual 14A-B & Locator	<u>932</u>
	2340

Task 4. Local Traffic Analysis and Analysis of Traffic Data

Federal Obligation	\$68,000.00
FY '86 Contract	68,000.00
FY '86 Claimed	64,900.00

This task endeavors to provide a community a comprehensive traffic records system, inclusive of microcomputer, peripherals, software and training to enforcement and engineering personnel, for accident countermeasure development. Eligible communities fall in two categories meeting the following criteria and are selected from a priority listing: (1) approximately 1,500 to 5,000 accidents per year or (2) a minimum of accidents plus citations and a multiple of road miles.

Hardware/Software

Central Missouri State University (CMSU) was contracted to provide enhancements to the software for Missouri's accident and citation reports and to facilitate the programs for analysis of high accident locations with the interaction of selective enforcement for countermeasure development.

Nine agencies were recipients of microcomputers and peripherals, on a 50/50 cost sharing. Three agencies received software only at no cost.

<u>Community</u>	<u>Received</u>	<u>50% Cost Sharing</u>	<u>Federal Share</u>
1-Branson	Micro & Peripherals	\$ 2,818.49	\$ 2,818.49
2-Brentwood	" "	2,818.49	2,818.49
3-Carthage	" "	2,818.49	2,818.49
4-Excelsior Springs	" "	2,818.49	2,818.49
5-Farmington	" "	2,818.49	2,818.49
6-Maryville	" "	2,818.49	2,818.49
7-O'Fallon	" "	2,818.49	2,818.49
8-Osage Beach	" "	2,818.49	2,818.49
9-Sunset Hills	" "	2,818.49	2,818.49
10-CMSU (Used for Development)	" "	2,818.49	2,818.49
1-Bel-Nor	Software Only		
2-Blue Springs	" "		
3-Des Peres	" "		
		SUBTOTAL	\$28,184.90
LOTUS 123 for 25 additional agencies with 50% cost sharing			\$ 2,478.50

Training

Sixteen 2 1/2 day training courses were held at CMSU for enforcement and engineering personnel to familiarize the attendees with the actual selected equipment and the encoding and report generation from Missouri's customized programs. One hundred and forty-two persons attended the courses.

Training Cost - Lodging, Meals, Materials/Software	\$ 7,156.13
Consultant Cost - Training, Program Enhancements &	
Technical Support	27,032.21
TOTAL PROJECT COST	\$64,851.74

Task 5. Court Records System

No activity in this Task for FY '86

Task 6. TR Traffic Records Systems Upgrade

Federal Obligation	\$ 185,000.00
FY '86 Contract	185,000.00
FY '86 Claimed	173,300.00

This Problem Solution Plan provided two state agencies funding for the upgrading of their traffic records systems. This was accomplished through the retention of a private consulting firm that provided the necessary technical assistance, and through the purchase of necessary computer hardware and

software.

The Missouri Highway and Transportation Department Project

The Missouri Highway and Transportation Department is presently implementing a project designed to upgrade the existing Traffic Records System. The existing method of data entry required a number of traffic clerks to review copies of Highway Patrol's accident reports and code the pertinent data on code sheets. These code sheets were then key punched on hollereth cards which were subsequently loaded into the main frame through a series of error checks. Any errors found by the computer were kicked back to the clerks for recoding, repunching and resubmittal.

To prepare an accident analysis, engineers were required to obtain data on roadway geometrics, AADT, surface data, coefficient of friction, ect., from several different Divisions. This made a correlated, accurate analysis a laborious and time consuming task which was not feasible within staffing and budgetary constraints. None of the 10 Districts were able to utilize the information due to lack of access to various data tapes.

To assist the clerks in maintaining accurate accident data and to facilitate efficient analysis by the Maintenance and Traffic Division, as well as to allow access by each District, the Department has implemented a project to upgrade the exsisting system.

This project is broken down into two distinct phases.

PHASE I

This phase is now completed and consisted of performing a feasibility study, procuring equipment and hiring a consultant to perform various computing tasks including the programming of input traffic records.

Among the equipment purchased during Phase I was an IBM 4341-M2 Central Processing Unit (computer), a terminal controller, and six (6) display stations, as well as various software packages. The Federal 70% participating cost of the equipment, software and installation, was \$55,401.62. The CPU was required because of the limits of our existing main frame. The terminal controller and display stations were necessary to allow on-line data entry by the traffic clerks.

Completion of Phase I provided the clerks with on-line data entry capabilities. They now punch the pertinent accident information directly into an on-line stream editor. This helps to assure the integrity of the data as well as reducing the inefficiency inherent in a key punch system.

Completion of Phase I also allowed the Department to interface with Highway Patrol data tapes. This will eliminate the duplication of effort between Highway Patrol data capture and Maintenance and Traffic data capture. Approximately 2/3 of the field formerly coded by the traffic clerks is now automatically transferred and interpreted by software written by the consultant. The savings in labor alone, made possible by the elimination of this duplicity, is anticipated to return the investment many times over. In FY '86 the consultant completed Phase I @ \$50,000.00 and a major portion of Phase II @ \$74,110.00, with 5% retainage pending final contract acceptance.

PHASE II

This phase is currently in progress and will consist primarily of correlating the existing data tapes and forming a single, easily maintained, highly accessible, correlated data base.

The correlated data base will be a composite data base made up of a master accident file, materials lab tape, surface data tape, horizontal and vertical curve data tape, vertical sight distance and traffic volume data tapes. Each of these individual data banks contain useful information for analyzing and predicting accident trends. The correlating into a single data base will enhance the ability of the engineers to perform various analyses. An example would be a study of run-off-the-road accidents by degree of curve. A study might show that curves above a certain degree are not economically desirable when one considers the amount of money and number of accidents saved by constructing a flatter curve.

Access to the data base will be provided to each of the 10 District Offices by means of remote on-line terminals. Currently, District Offices must submit requests through the mail, wait for processing, and finally receive hard copies of accident statistics. Aside from the convenience of having these statistics available at the District Engineer's finger tips, a substantial cost savings will be realized through avoiding the mailing process. This will also allow Main Office personnel currently handling this task to spend more time dealing with accident trends and studies rather than filling specific requests from the Districts.

Phase II also consists of a partial purchase of microfilm equipment. This equipment will be used to place microfilm copies of accident reports in the District Offices for their use. This will enable each District to look at actual accident reports as the need arises. Currently, requests by each District for this type of information are handled by the same laborious procedure as requests for accident statistics.

In summary, as a result of this program, the Missouri Highway and Transportation Department will have a much more efficient and secure input system for Accident Record keeping. The integrity of the data is also in less danger. The correlated data base will take the wealth of data which currently exists within the Department and provide an efficient means of producing useful information for the prediction of accident trends and completion of accident studies. The installation of terminals and microfilm equipment in each of the District Offices will provide a more efficient means of obtaining accident reports and performing accident studies at the District level. This will save much time and money in data and paper transfer.

The Department of Revenue Project

Also included in this task were two objectives to upgrade the processing of administrative DWI arrest records to expedite removal of drunk drivers from the highways and to upgrade response time from the national driver register in Washington D.C. regarding driver history information to achieve the first objective.

Development process began with a PC model of the project. This was not

detailed but provided a guide to mainframe application. A transfer from a PC model to a mainframe model was necessary to speed implementation.

From the model, a skeleton mainframe application was designed. This included a representation of processing to be done throughout all major functions. The first function, case establishment, has been programmed in skeleton form. The ability to enter data, edit entries, store data for retrieval and produce initial required output is included. The parallel testing has been completed successfully. The additional "Muscle" will be added to the skeleton to complete automation of the first major function.

Certain equipment and personnel was also needed to complete the first objective this included:

- 2 - 4224 Serial DOT Matrix impact printers
- 1 - 4234 DOT band printer - impact matrix
- 2 - PC/XT with attachments and software
- 5 - 3191 CRT units
- 1 - Full time programmer analyst employed May 1, 1986
- 1 - Full time programmer analyst employed July 21, 1986
- 1 - Full time management analyst employed October 1, 1986
 - (Although not funded through this program, other support employees from the Drivers License Bureau and the Information Systems Division have been working on the project. These include DLB/ISD management staff and DLB data processing staff)

Upgraded response time from the National Driver Registry in Washington D.C. was accomplished by purchasing the following equipment:

- 1 - PC/XT with attachments and software
 - Wide carriage printer
 - External modem
 - BARR/HASP communication package
 - 3270 emulation program

Through accomplishment of this task, driver information response time went from 14 days to 24 hours.

Task 7. Program Coordination

Federal Obligation	\$38,000.00
FY '86 Contract	38,000.00
FY '86 Claimed	35,600.00

The coordinators of these projects had the responsibility of developing, implementing and monitoring the Task in this Problem Solution Plan.

PROBLEM SOLUTION PLAN 86-07

55 M.P.H. ENFORCEMENT

Federal Obligation	\$215,800.00
FY '86 Contract	215,000.00
FY '86 Claimed	206,000.00

Missouri's 55 M.P.H. programs are aimed at forcing compliance with the national speed limit through the imposition of punitive sanctions or threat of such sanctions to those drivers violating the law. The underpinning philosophy being for drivers to comply with the 55 M.P.H. speed limit not because they recognize it to be proper behavior, but because of the potential adverse affects that noncompliance could have on them personally and financially. Speed-related accidents have been determined as a significant problem in the State of Missouri and by increasing motorist compliance with the national speed limit, there should be a correlation between the increased compliance and reduced frequency of speed-related crashes.

A set of funding statements and eligibility criteria have been developed to assist management in objectively selecting sites for funding, based on a number of variables. Sites meeting these sets of criteria may be funded without prior approval from National Highway Traffic Safety Administration (NHTSA). Updates to the plan will be made as sites are selected, with informational contracts to be provided to NHTSA.

Task 1. Continuation Sites

Federal Obligation	\$159,000.00
FY '86 Contract	159,000.00
FY '86 Claimed	158,100.00

This project provided funding for traffic officers' salaries in rural and urban areas. Other costs included project support equipment and mileage on project-involved vehicles. Continuation eligibility was measured through performance in the project through increased selective enforcement, increased 55 M.P.H. speed arrests, decreased speed-related traffic crashes or a combination of variables that were used to indicate success of the project.

The Missouri Division of Highway Safety funded 3 sites under this task. These agencies were:

Kansas City Police Department
St. Louis City Police Department
Independence Police Department

Figure 55-1 graphically shows the areas of the state that have experienced speed related accidents in rural areas only excluding interstates.

Task 2. C.A.R.E. Project

Federal Obligation	\$20,000.00
FY '86 Contract	20,000.00
FY '86 Claimed	12,300.00

Project Description:

Provide increased saturation enforcement during holiday weekends. Funds were used to pay extra gasoline used by the Highway Patrol in this effort.

Goals:

Decrease traffic crashes compared to previous period last year.

Objectives:

Increase average contacts per 8 hours of operation from the normal amount of 6.93 to 8.0.

Activities:

A. Memorial Day Weekend

1. No fatal accidents and 56 total accidents.
2. Thirty-two DWI arrests were made, with 2,992 total arrests.
3. A total of 489 officers covered 69,987 miles.

B. Independence Day

1. One fatal accident and 118 total accidents.
2. Fifty-five DWI arrests were made, with 3,820 total arrests.
3. A total of 502 officers covered 82,955 miles.

C. Labor Day

1. Three fatal accidents and 81 total accidents.
2. Thirty-one DWI arrests were made, with 3,535 total arrests.
3. A total of 464 officers covered 69,010 miles.

Task 3. New Sites

Federal Obligation	- 0 -
FY '86 Contract	- 0 -
FY '86 Claimed	- 0 -

No activity in this area

Task 4. Program Coordinator

Federal Obligation	\$7,500.00
FY '86 Contract	7,500.00
FY '86 Claimed	6,300.00

The program coordinator was responsible for developing, implementing, and monitoring the tasks in this particular problem solution plan. Major cost items were salaries and fringe benefits.

Task 5. Equipment Upgrade

Federal Obligation	\$29,300.00
FY '86 Contract	29,300.00
FY '86 Claimed	29,300.00

Funds in this task were used to purchase four fully equipped patrol cruisers and four radar guns for the Kansas City Police Department. Independence Police Department received funding to purchase two radar guns. All equipment purchased will be used in the enforcement of 55 m.p.h. speed compliance.

MISSOURI FATAL & PERSONAL INJURY
SPEED RELATED ACCIDENTS 1984 - 1986
RURAL AREAS ONLY / EXCLUDING INTERSTATES

PROBLEM SOLUTION PLAN 86-08

PUBLIC INFORMATION AND EDUCATION

Federal Obligation	\$134,000.00
FY '86 Contract	134,000.00
FY '86 Claimed	124,600.00

Public information is the key to the success of all highway safety efforts. People act on what they think and feel. If they feel the quality of life will be enhanced by removing the drunk driver from our streets and highways, and that their chances for survival are dramatically increased by using seat belts and child restraints, their support for these programs is assured. Public information involves motivation through education. All programs, to succeed, require a strong PI&E component.

The Missouri Division of Highway Safety developed and maintained personal contacts with public service directors and news directors and staff, in an effort to generate ongoing interest in highway safety programs and issues.

Division and Department of Public Safety officials promoted highway safety projects, participated in news conferences, in-depth public service programs and interviews throughout the state during FY '86.

The Missouri Division of Highway Safety anticipates that continued emphasis in occupant restraints and D.W.I. at the federal level and will enhance interest at the state and local level; with general awareness of all aspects of highway safety increasing, as a result.

Task 1. Comprehensive Public Information

Federal Obligation	\$110,000.00
FY '86 Contract	110,000.00
FY '86 Claimed	102,900.00

This task provided funding to promote safe use of the states highways through mass media information programs and community planned education activities. During FY '86 three target areas were emphasized. Occupant protection, 55 m.p.h. and alcohol involvement for statewide public exposure three (3) television/radio spots, three (3) holiday radio spots and six (6) newspaper ads were produced. Printed materials were also developed which included artwork for three (3) brochures, bumper stickers were printed and two dashboard stickers were printed.

Finally the Division's attitude awarness study was conducted to measure progress in the emphasis areas of Highway Safety. For a detail copy of this report contact the Missouri Division of Highway Safety.

Task 2. Highway Safety Newsletter

Federal Obligation	\$20,000.00
FY '86 Contract	20,000.00
FY '86 Claimed	20,000.00

During FY '86 the Missouri Division of Highway Safety published six (6) Highway Safety Examiners reaching 6,000 individuals per issue concerning the topic of safe driving.

Task 3. Alcohol Program Support

Federal Obligation	\$4,000.00
FY '86 Contract	4,000.00
FY '86 Claimed	4,000.00

This task covered associated costs in the alcohol area. The majority of funds were used to cover printing costs for pamphlets and brochures. Coffee mugs were purchased for distribution at the DWI conference in Springfield. Films were acquired for distribution to interested parties in the alcohol area.

Task 4. Highway Safety Program Support

Federal Obligation	- 0 -
FY '86 Contract	- 0 -
FY '86 Claimed	- 0 -

No activity in this area

Task 5. Video Production

Federal Obligation	- 0 -
FY '86 Contract	- 0 -
FY '86 Claimed	- 0 -

No activity in this area

PROBLEM SOLUTION PLAN 86-10

ENGINEERING SERVICES

Federal Obligation	\$160,000.00
FY '86 Contract	160,000.00
FY '86 Claimed	141,800.00

This Problem Solution Plan made available the services of trained professionals to aid the cities and counties that did not have trained personnel on their staff. Four private consulting engineering firms provided cities and counties with a prompt review of their particular problems. Services made available were limited to the specific areas of Traffic Engineering and Bridge Engineering.

Task 1. Bridge Engineering Assistance Program

Federal Obligation	\$90,000.00
FY '86 Contract	90,000.00
FY '86 Claimed	82,800.00

This task provided for the retention of two consultant firms with expertise in analyses of bridge structures. The state was divided into two segments, with one consultant assigned to each area. The consultants reviewed structures as requested by a city or county and provided information on bridge condition, load limits and recommended repairs and maintenance.

In the eastern segment nine (9) projects were completed by Campbell Design Group and twenty-seven (27) bridges were inspected at an average cost of \$997.53/bridge.

The western segment reported that 43 projects were completed by Harrington and Cortelyou, Incorporated and 114 bridges were inspected at an average cost of \$528.44/bridge. These structures were inspected, rated, and recommendations made for their repair.

Task 2. Traffic Engineering Assistance Program

Federal Obligation	\$70,000.00
FY '86 Contract	70,000.00
FY '86 Claimed	59,000.00

This task provided for the retention of two consulting firms with expertise in traffic engineering. The state was divided into two segments, with one consultant assigned to each area. The consultants reviewed and recommended countermeasures for cities and counties with specific operational problems on their streets and highways.

In the eastern sections fifteen (15) projects were completed by Crawford, Bunte, Brammeier, at an average cost of \$2,559.67/project. The western section had seven (7) projects completed by Larkin and Associates. The average cost was \$3,388.39/project.

The Most Requested Types of Studies:

Signing Studies	- 9 requests
Intersection Studies	- 3 requests
Traffic Circulation	- 3 requests
Parking & Pedestrian Studies	- 2 requests
Speed Limit Study	- 2 requests
School Crossing Study	- 1 requests
Pavement Condition Study	- 1 request
Truck Route Plan	- 1 request

PROBLEM SOLUTION PLAN 86-11

ENGINEERING TRAINING

Federal Obligation	\$27,600.00
FY '86 Contract	27,600.00
FY '86 Claimed	26,900.00

This Problem Solution Plan provided training to local government personnel in traffic engineering. Conferences and Workshops were used to provide agencies with information on traffic problem countermeasure development. Continual turnover of personnel, and changes in standards for traffic engineering with increases in technology necessitate the need for training to be continued.

Task 1. Annual Traffic Conference

Federal Obligation	\$9,600.00
FY '86 Contract	9,600.00
FY '86 Claimed	9,500.00

This program provided a forum for the discussion of Highway Safety Engineering topics and includes speakers from both the public and private sectors. The Annual Traffic Conference was held on April 28-30, 1986 at the University of Missouri in Columbia, Missouri, 115 traffic related personnel attended.

Task 2. Traffic Safety Workshops & Seminar

Federal Obligation	\$18,000.00
FY '86 Contract	17,900.00
FY '86 Claimed	17,400.00

Three Highway Capacity Manual Workshops were held in 1986. Two workshops were held in St. Louis, one on May 20-22 and one on May 27-29, 1986. A workshop was also held in Kansas City on May 27-29, 1986. Seventy-four traffic engineering personnel attended the training.

PROBLEM SOLUTION PLAN 86-12

INTERGOVERNMENTAL COORDINATION

Federal Obligation \$	-0-
FY '86 Contract	-0-
FY '86 Claimed	-0-

An established Highway Safety Engineering Committee ensured a continuing dialogue between the state and the needs of the committees.

Task 1. Highway Safety Engineering Committee

Federal Obligation \$	-0-
FY '86 Contract	-0-
FY '86 Claimed	-0-

Committee hearings were held to explain and discuss various aspects of the Highway Safety Programs. Ideas were solicited from the committee members and discussed for future programming with available funding. Meetings were held in the following areas:

April 30, 1986
Columbia, Missouri
Attendance: 6 members, 5 guests and staff

November 20, 1986
Jefferson City, Missouri
Attendance: 7 members, 6 guests and staff

PROBLEM SOLUTION PLAN 86-13

EQUIPMENT PURCHASE

Federal Obligation	\$ 3,700.00
FY '86 Contract	3,700.00
FY '86 Claimed	1,900.00

Task 1. Traffic Engineering Equipment Purchases

This Problem Solution Plan provided for the purchase of a Panasonic AG1505 Camcorder and a Panasonic CT1920M-19" Color Monitor for the City of Springfield.

Applicability of Equipment to Usage: Equipment has been used to record skid tests, record signal installation, and record traffic operations at intersections, all of which are applicable uses of this equipment. Pre-recorded cassette tapes on traffic signal systems and solid waste disposal systems were presented at board or committee meetings.

Benefits to Traffic Engineering: Equipment allows study of intersection operations to determine potential problems and to identify effective traffic control measures. Equipment allows effective review of equipment installation procedures for both employees involved in work and unexperienced personnel. Video tape effectively presents traffic engineering concerns to board members.

Benefits to Public: By effectively determining potential problems and indentifying effective traffic control measures, the engineer can more readily make traffic control changes to improve traffic flow and safety. Staff training improves efficiency, resulting in less cost to public. Presentations increase awareness of board members.

PROBLEM SOLUTION PLAN 86-14

WARNING AND REGULATORY SIGNS

Federal Obligation \$51,300.00
FY '86 Contract 51,300.00
FY '86 Claimed 51,200.00

A materials purchase program was established to assist cities in bringing their off-system traffic signing in compliance with the Manual on Uniform Traffic Control Devices.

Task 1. Warning and Regulatory Signs (material purchases)

Federal Obligation \$50,300.00
FY '86 Contract 50,300.00
FY '86 Claimed 50,200.00

The following list of communities received materials for Sign Plan implementation:

<u>City</u>	<u>County</u>	<u>Materials Cost</u>
----	Ste. Genevieve	\$ 7,395.70
Dixon	Pulaski	2,719.60
Fulton	Callaway	5,503.65
Gerald	Franklin	3,289.75
Maryland Heights	St. Louis	12,587.05
Maryville	Nodaway	5,880.10
----	Cole	<u>13,072.10</u>
	TOTAL	\$ 50,247.95

Task 2. Program Coordination

Federal Obligation \$1,000.00
FY '86 Contract 1,000.00
FY '86 Claimed 1,000.00

The coordinator of this project had the responsibility of developing, implementing, and monitoring the task in this particular Problem Solution Plan.

